



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,120	11/19/2003	Michiel van Nieuwstadt	81093054	7316

22844 7590 07/01/2005

FORD GLOBAL TECHNOLOGIES, LLC.
SUITE 600 - PARKLANE TOWERS EAST
ONE PARKLANE BLVD.
DEARBORN, MI 48126

EXAMINER

TRAN, BINH Q

ART UNIT PAPER NUMBER

3748

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/717,120	Applicant(s) VAN NIEUWSTADT ET AL.	
	Examiner BINH Q. TRAN	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) 1-12, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/19/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election / Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, and 22-23, drawn to a method for diagnosing degradation of a NOx-reducing catalyst, classified in class 60, subclass 277.*
- II. Claims 13-21, drawn to a method for estimating a temperature of a NOx-reducing catalyst, classified in class 60, subclass 274.*

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01. In the instant case, the different inventions have different modes of operation. Specifically, claims 1-12 require the steps of providing an indication of degradation based on a comparison of said actual exotherm and said expected exotherm...

Because these inventions are distinct for the reason given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

During a telephone conversation with Miss. Julia Voutyras (Reg. No. 48,019) on June 10, 2005 a provisional election was made without traverse to prosecute the invention of II, claims 13-21. Affirmation of this election must be made by applicant in replying to this Office Action. Claims 1-12, and 22-23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 13-21 are rejected under 35 U.S.C. 102 (b) as being anticipated by Genderen (Patent Number 6,742,330).

Regarding claims 13 and 16, Genderen discloses a method for estimating a temperature of a NO_x-reducing catalyst (e.g. 40, 42, 43), comprising: estimating an amount of reductant stored in the catalyst (e.g. See col. 18, lines 26-67; col. 19, lines 1-65); and estimating a catalyst temperature based at least on said estimated amount of reductant stored in the catalyst and on an amount of reductant in an exhaust gas mixture entering the catalyst (e.g. See cols. 20-23, lines 1-67; col. 24, lines 1-8).

Regarding claim 14, Genderen further discloses that the NO_x-reducing catalyst temperature estimate is further based on a temperature measurement (e.g. 65, 67, 68) upstream of the NO_x-reducing catalyst (e.g. 40, 42, 43) (e.g. See col. 23, lines 1-67; col. 24, lines 1-8).

Regarding claim 15, Genderen further discloses that the based on mass airflow (e.g. See cols. 20-23, lines 1-67; col. 24, lines 1-8).

Regarding claim 17, Genderen further discloses that the NO_x-reducing catalyst is an ALNC (e.g. See cols. 20-23, lines 1-67; col. 24, lines 1-8).

Regarding claims 18, Genderen further discloses that the NO_x-reducing catalyst is an oxidation catalyst (e.g. See cols. 20-23, lines 1-67; col. 24, lines 1-8).

Regarding claim 19, Genderen further discloses that the reductant is hydrocarbon (e.g. See col. 15, lines 29-63).

Regarding claim 20, Genderen further discloses the step of calculating an actual exotherm based on at least a temperature measurement downstream of said catalyst (e.g. See col. 23, lines 1-67; col. 24, lines 1-8).

Regarding claim 21, Genderen further discloses the step of providing an indication of catalyst degradation based on a comparison of said actual and said expected change in said exotherm (e.g. See cols. 20-23, lines 1-67; col. 24, lines 1-8).

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Schmelz (Pat. No. 5628186), Kibe (Pat. No. 5842341), Emmerling et al. (Pat. No. 6119448), Hirota et al. (Pat. No. 6199374), and Mazur et al. (Pat. No. 6408616) all disclose an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
June 25, 2005



Binh Q. Tran
Patent Examiner
Art Unit 3748